

Docket No. LARS-013

APPLICATION

FOR UNITED STATES LETTERS PATENT

SPECIFICATION

18 TO ALL WHOM IT MAY CONCERN:

19

20 BE IT KNOWN THAT WE, **Donald O. Larson**, a citizen of the United States,
21 and **Ryan L. Anderson**, a citizen of the United States, have invented a new and useful
22 medical arm securing device of which the following is a specification:

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2
3 **Medical Arm Securing Device**
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8 **CROSS REFERENCE TO RELATED APPLICATIONS**
9 Not applicable to this application.
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14 **STATEMENT REGARDING FEDERALLY
15 SPONSORED RESEARCH OR DEVELOPMENT**
16 Not applicable to this application.
17
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20

21 **BACKGROUND OF THE INVENTION**
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24

25 **Field of the Invention**
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27 The present invention relates generally to arm support devices and more
28 specifically it relates to a medical arm securing device for temporarily securing the
29 arms of an immobile person in an accessible position.

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2

3 **Description of the Related Art**

4

5 Long backboards (LBB) have been in use for years for transporting an immobile
6 patient (e.g. non-responsive, paralyzed, etc.). Figure 6 of the drawings illustrates an
7 exemplary long backboard that is utilized to transport immobile patients.

8

9 The main problem with conventional long backboards is that the patient's arms
10 are prone to falling to the sides of the long backboard while transporting the patient.
11 Arms of a patient hanging downwardly to the sides of the long backboard are prone to
12 injury and make moving the patient difficult (e.g. narrow doorways, staircases, etc.).

13

14 To reduce movement of the arms, the securing straps of the long backboard are
15 often times utilized to secure the arms of the patient in a desired position. However,
16 the securing straps make it difficult to access the arms for medical personnel for
17 performing medical tests/procedures thereby requiring loosening or removal of the
18 securing strap. Loosening or removing the securing strap allows the arms to fall to the
19 sides of the long backboard and also places the patient under an increased risk of
20 accidentally falling from the long backboard while being transported.

21

22 While these devices may be suitable for the particular purpose to which they
23 address, they are not as suitable for temporarily securing the arms of an immobile
24 person in an accessible position. Conventional long backboards do not allow for
25 convenient securing of the arms of a patient.

26

27 In these respects, the medical arm securing device according to the present
28 invention substantially departs from the conventional concepts and designs of the prior

1 art, and in so doing provides an apparatus primarily developed for the purpose of
2 temporarily securing the arms of an immobile person in an accessible position.
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2 **BRIEF SUMMARY OF THE INVENTION**

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4 In view of the foregoing disadvantages inherent in the known types of arm
5 securing devices now present in the prior art, the present invention provides a new
6 medical arm securing device construction wherein the same can be utilized for
7 temporarily securing the arms of an immobile person in an accessible position.

8

9 The general purpose of the present invention, which will be described
10 subsequently in greater detail, is to provide a new medical arm securing device that has
11 many of the advantages of the arm securing devices mentioned heretofore and many
12 novel features that result in a new medical arm securing device which is not
13 anticipated, rendered obvious, suggested, or even implied by any of the prior art arm
14 securing devices, either alone or in any combination thereof.

15

16 To attain this, the present invention generally comprises a main member, and a
17 first slot and a second slot extending into the main member. The slots receive the
18 wrists of an immobile patient and prevent the arms from falling to the sides. A
19 securing slot extends into a bottom portion of the main member for attaching to a
20 strap. A plurality of notches preferably extend into the front and rear ends of the main
21 member for selectively receiving a band member.

22

23 There has thus been outlined, rather broadly, the more important features of the
24 invention in order that the detailed description thereof may be better understood, and
25 in order that the present contribution to the art may be better appreciated. There are
26 additional features of the invention that will be described hereinafter and that will form
27 the subject matter of the claims appended hereto.

28

29 In this respect, before explaining at least one embodiment of the invention in

1 detail, it is to be understood that the invention is not limited in its application to the
2 details of construction and to the arrangements of the components set forth in the
3 following description or illustrated in the drawings. The invention is capable of other
4 embodiments and of being practiced and carried out in various ways. Also, it is to be
5 understood that the phraseology and terminology employed herein are for the purpose
6 of the description and should not be regarded as limiting.

7

8 A primary object of the present invention is to provide a medical arm securing
9 device that will overcome the shortcomings of the prior art devices.

10

11 A second object is to provide a medical arm securing device for temporarily
12 securing the arms of an immobile person in an accessible position.

13

14 Another object is to provide a medical arm securing device that allows medical
15 personnel to access the arms and hands of a patient for medical procedures and tests
16 without requiring removal of the arms from the securing apparatus.

17

18 An additional object is to provide a medical arm securing device that allows for
19 quick, easy and efficient securing of an immobile patient's arms.

20

21 A further object is to provide a medical arm securing device that may be
22 utilized by various types of medical personnel.

23

24 Another object is to provide a medical arm securing device that is easily
25 sanitized after being utilized.

26

27 A further object is to provide a medical arm securing device that does not
28 require straps or fasteners to secure the arms of an immobile patient.

29

1 Other objects and advantages of the present invention will become obvious to the
2 reader and it is intended that these objects and advantages are within the scope of the
3 present invention.

4

5 To the accomplishment of the above and related objects, this invention may be
6 embodied in the form illustrated in the accompanying drawings, attention being called
7 to the fact, however, that the drawings are illustrative only, and that changes may be
8 made in the specific construction illustrated and described within the scope of the
9 appended claims.

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2 **BRIEF DESCRIPTION OF THE DRAWINGS**

3

4 Various other objects, features and attendant advantages of the present
5 invention will become fully appreciated as the same becomes better understood when
6 considered in conjunction with the accompanying drawings, in which like reference
7 characters designate the same or similar parts throughout the several views, and
8 wherein:

9

10 FIG. 1 is an upper perspective view of the present invention.

11

12 FIG. 2 is a first upper perspective view of the present invention attached to a
13 strap.

14

15 FIG. 3 is a second upper perspective view of the present invention attached to a
16 strap.

17

18 FIG. 4 is a side view of the present invention.

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20 FIG. 5 is a top view of the present invention.

21

22 FIG. 6 is a top view of the present invention securing the arms of a patient.

23

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2 **DETAILED DESCRIPTION OF THE INVENTION**

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4 *A. Overview*

5 Turning now descriptively to the drawings, in which similar reference
6 characters denote similar elements throughout the several views, FIGS. 1 through 6
7 illustrate a medical arm securing device **10**, which comprises a main member **20**, and a
8 first slot **42** and a second slot **52** extending into the main member **20**. The slots **42, 52**
9 receive the wrists of an immobile patient **16** and prevent the arms from falling to the
10 sides. A securing slot **30** extends into a bottom portion of the main member **20** for
11 attaching to a strap **12**. A plurality of notches **72** preferably extend into the front and
12 rear ends of the main member **20** for selectively receiving a band member **70**.

13

14 *B. Main Member*

15 The main member **20** is preferably an elongate flat structure as shown in
16 Figures 1 through 6 of the drawings. The main member **20** may have various shapes,
17 sizes and structure other than illustrated in the attached drawings.

18

19 The main member **20** has a rear portion that is positionable adjacent an
20 immobile patient **16**. The rear portion of the main member **20** is preferably straight or
21 formed to fit adjacent to the patient **16** as shown in Figure 4 of the drawings.

22

23 The main member **20** is preferably comprised of a non-porous material that
24 allows for easy sanitizing of the main member **20** after usage on an immobile patient
25 **16**. The main member **20** may be comprised of various materials such as but not
26 limited to metal, plastic, composite and the like.

27

28 As best illustrated in Figure 4 of the drawings, a securing slot **30** preferably
29 extends into the lower portion of the main member **20** for removably receiving a strap

1 12. The securing slot **30** extends a sufficient distance for receiving at least a
2 significant portion of a strap **12** utilized upon a long backboard **14** or the belt of a
3 patient **16** as shown in Figures 2 and 3 of the drawings. A cutout **32** preferably
4 extends into an inner end of the securing slot **30** for catchably receiving the strap **12**.

5

6 As further shown in Figure 4 of the drawings, the securing slot **30** is preferably
7 straight and extends into the main member **20** at an angle. The angle is preferably less
8 than forty-five degrees as shown in Figure 4 of the drawings.

9

10 C. *Slots 42, 52*

11 As shown in Figures 1 through 5 of the drawings, a first slot **42** extends into an
12 upper portion of the main member **20** for receiving a first arm **40** of a patient **16**. A
13 second slot **52** extends into the upper end of the main member **20** near the first slot **42**
14 for receiving a second arm **50** of a patient **16**.

15

16 The slots **42, 52** are preferably the same size and shape, however variations may
17 exist between the slots **42, 52**. The slots **42, 52** each have a depth and width sufficient
18 for receiving the wrists of a patient **16**. The slots **42, 52** may have rounded corners to
19 prevent injury to the patient **16** during transport.

20

21 The slots **42, 52** are preferably substantially parallel to one another as further
22 shown in Figure 4 of the drawings. The slots **42, 52** form a first arm **40**, a second arm
23 **50** and a third arm **60** as further shown in Figure 4 of the drawings. The arms are
24 substantially parallel to one another and the main member **20** with the slots **42, 52** has
25 an E-shaped structure as best shown in Figure 4 of the drawings. Various other
26 configurations may be utilized to achieve a similar structure and function.

27

1 **D. Notches and Band Member**

2 A plurality of notches 72 preferably extending into the opposing ends of the
3 main member 20 as shown in Figures 1 through 4 of the drawings. The notches 72
4 may have various cross sectional shapes, but preferably are formed for securing
5 receiving a portion of a band member 70.

6

7 The band member 70 is preferably comprised of a circular and resilient
8 structure that is able to stretch over the main member 20 for engagement with the
9 opposing notches 72. The band member 70 retains the arms of the patient 16 within
10 the slots 42, 52.

11

12 **E. Operation**

13 In use, a patient 16 is first positioned upon a long backboard 14 and then
14 secured using straps as shown in Figure 6 of the drawings. The present invention is
15 then positioned on the chest or abdomen of the patient 16 with the longitudinal axis of
16 the main member 20 substantially parallel to the longitudinal axis of the patient 16.
17 The main member 20 is preferably attached to one of the straps attached to the long
18 backboard 14 by positioning the strap 12 within the securing slot 30 as shown in
19 Figures 2 and 3 of the drawings.

20

21 The medical personnel then place a first arm 40 of the patient 16 into the first
22 slot 42 of the main member 20 and a second arm 50 of the patient 16 into the second
23 slot 52 of the main member 20 as shown in Figure 6 of the drawings. The arms of the
24 patient 16 are substantially parallel to one another when positioned within the slots 42,
25 52. If the arms of the patient 16 begin to fall outwardly, the arms bind within the main
26 member 20 and are limited in their respective movement.

27

28 To ensure that the arms are not accidentally removed from the slots 42, 52
29 during transportation, the band member 70 may be secured upon the main member 20

1 in a desired position. The band member **70** is positioned within the notches **72** that
2 correspond to the size of the arms to limit movement of the arms within the slots **42**,
3 **52**. Medical personnel are then able to perform medical tests and medical procedures
4 on the arms of the patients without obstruction.

5

6 The above-stated procedure is simply reversed to remove the arms of the patient
7 **16** from the present invention. After usage, the main member **20** may be positioned
8 within a sanitizing unit for usage on another patient **16**. Alternatively, the present
9 invention may be disposed of and replaced with a new replacement.

10

11 As to a further discussion of the manner of usage and operation of the present
12 invention, the same should be apparent from the above description. Accordingly, no
13 further discussion relating to the manner of usage and operation will be provided.

14

15 With respect to the above description then, it is to be realized that the optimum
16 dimensional relationships for the parts of the invention, to include variations in size,
17 materials, shape, form, function and manner of operation, assembly and use, are
18 deemed to be within the expertise of those skilled in the art, and all equivalent
19 structural variations and relationships to those illustrated in the drawings and
20 described in the specification are intended to be encompassed by the present invention.

21

22 Therefore, the foregoing is considered as illustrative only of the principles of
23 the invention. Further, since numerous modifications and changes will readily occur to
24 those skilled in the art, it is not desired to limit the invention to the exact construction
25 and operation shown and described, and accordingly, all suitable modifications and
26 equivalents may be resorted to, falling within the scope of the invention.